



HI-Q

THE LAKEHEAD AMATEUR RADIO CLUB JOURNAL

LARC- Suite 184, 1100C Memorial Ave., Thunder Bay, Ontario, Canada, P7B 4A3

VE3FW - LARC call sign - honours the memory of the Founding President - P. J. "Pat" O'Shea

LARC SENATE

Keith Fiske	VE3JQ
Ray Forslund	VE3EDZ
Ray Greer	VE3CH
Dave Kimpton	VE3AVS
Bill Klemacki	VE3AJ
Bill Roberts	VE3ARN

LARC EXECUTIVE

President:	Bob Hansen	VE3RVA 767-6924
Vice-Pres:	Mark Vaillant	VA3MVR 935-2205
Secretary:	Judy Artist	VA3EAP 345-2218
Treasurer:	Jan Sokoloski	VA3JRS 344-3222
Directors:	Ed Baumann	VE3SNW 622-1216
	Andy Malcolm	VE3INI 345-1858
	Maureen Meredith	VA3MOB 344-7868
	Pat Pugh	VA3PP 345-8562

LARC OPEN ACCESS REPEATERS

VE3YQT	MOUNT BALDY	147.06	(-600)	FP
VE3TBR	ST. JOSEPH'S	146.820	(-600)	FP
VE3BGA	HILLCREST H.S.	147.390	(+600)	
VE3TBB	UPSALA ONT.	145.470	(-600)	FP
(linked to VE3VOT)				

PREZ SEZ.....

The weather is turning warmer and this is the start of our spring meetings leading up to summer.

I would like to thank all the members that brought their communication equipment for "Show and Tell" to the March meeting. We had around two hundred years of equipment on display, thanks to Bill **VE3AJ**, Randy **VA3GOT**, Terry **VE3TFS** and Andy **VE3INI**.

As of now I have no activities planned for the April meeting, but there will be a draw for a gourmet dinner for two at this meeting. Plans are underway for the Field Day which will be held on June 23 – 24, 2001, at Mark's (**VA3MVR**) property.

As spring is here, please come out and join in the meetings with us.

Your President.....Bob **VE3RVA**
ADDENDUM.....Yes, President Bob **was** at the LARC Family Ski Night!!! (Ed.)

The following comes via Jim VE3UA and continues the series of articles concerning the ISS (Interplanetary Space Station) and how to work it. (I have left the text of the email pretty much as I received itEd.)

Space Station Alpha gets a new Amateur Radio call sign.....January 25, 2001

**By Miles Mann WF1F,
MAREX-NA (Manned Amateur Radio Experiment,
North American Division)**

The ISS ALPHA is keeping the international flair by hosting several amateur radio call signs from around the world. So far the ISS ALPHA has four call signs from three different countries, Russia, USA and Germany. Also each of the crewmembers of expedition 1, has their own personal Amateur Radio call sign. The newest call sign is now R0ISS (R Zero ISS). The new call sign will become the official call sign of the Space station. You can expect the ISS crew to be using this call sign on both voice and packet operations. The new Club call sign was issued by the Russian government on December 12, 2000.

**William Shepherd, Expedition commander, KD5GSL
Yuri Gidzenko, Soyuz commander (unknown)
Sergei Krikalev, flight engineer, U5MIR
Russian Module call sign: RZ3DZR / R0ISS
Other club call signs ISS used: NA1SS, DL0ISS
and ALPHA**

Ground Station Link:

What will you need to Hear the ISS ALPHA Amateur Radio 2-meter Station.

That's a tricky question because there are good orbit passes and poor low orbit passes. On a good 45 degree orbit pass, since the ISS ALPHA is only 250 miles high, you will be able to hear the 2-meter signal from the space station with a very small antenna (0 dBd to minus 12 dBd (rubber duck)). During a very low

orbit passes under 20 degrees you may need a much larger antenna.

The Amateur Radio station on ISS ALPHA will be transmitting in the satellite 2-meter band (ITU 144.000 - 146.000 mc). I have listed a frequency chart below. The ISS ALPHA transmitter power output is approximately 3 watts, into a pair of co-phased vertical antennas rated at minus 3 dBd. There is one antenna on each side of the Service module. Both antennas are then connected to a power divider to split the transmit power evenly between the two antennas. The co-phased installation provides a good transmit and receive pattern, with very little blocking of the signals by the bulk of the space station itself. I do not have the coax loss values at this time. This combination of power and antenna gain will provide an ERP rating of approximately 1.5 watts. The 1.5-watt value is not that bad, many stations have reported hearing the ISS crew talking to pre-arranged schools with the ISS Amateur Radio station and the signal reports were very good. If you only have a zero dBd gain antenna and a police scanner you will still be able to hear the ISS ALPHA on some good orbits. I have even heard ISS with a HT and Rubber duck (not recommended for quality reception). (note: if your antenna is rated in dB rather than the correct dBd value, subtract 3 to convert the dB value to the correct dBd rating. The higher the dBd rating, the better the antenna.)

Suggested receiving station:

Casual listening for ISS ALPHA and Mir 2-meter vertical or scanner antenna (0 dBd or better)

Police scanner or amateur radio with the ability to receive in the 144 - 146 mc or MHz range, FM mode. Antenna cable should be a low loss RG-8 style cable less than 100 feet long (RG-213 best choice). You will not need to mount the antenna very high, just try to get above the roof ridge line. And of course you will need to find / buy a satellite tracking program. I recommend the InstantTrack 1.5. It's a simple easy to use program, which can be purchased from Amsat.
<http://www.amsat.org/amsat/instanttrack/>

ISS ALPHA frequencies:

The Amateur Radio frequencies for ISS ALPHA have been posted.

<http://spaceflight.nasa.gov/station/reference/radio/>

Worldwide downlink for voice and packet: 145.800

Worldwide packet uplink: 145.990

Region 1 voice uplink: 145.200

Region 2 & 3 voice uplink: 144.490

You will need to dig out the manual for your radio and program in the following frequency combinations. Note that some of the older FM mobile and Walkie-talkie HT style radios over 15 years old may have some difficulty in saving these combinations into memory. The channels listed below will help you compensate for the speed of the space station, called Doppler. If the smallest channel step your radio supports is 5k, then only program in channels 2, 5 and 8. If your radio supports the smaller 2.5k channel step, then program in all channels listed. After you have determined your smallest channel step supported by your radio, then program in the channels.

You can either use the procedures for storing ODD-Splits or you can reprogram your repeater off set for each of the channels and then save the new combination in a new memory location. This channel procedure has been successfully used on

the Mir Amateur Radio program for years and is the choice of usage for school schedules (you do not want to fiddle with VFO's during a 10-minute pass). I also recommend you program in all channels, no matter what part of the world you live in. The World Map ISS ALPHA location display used by the ISS ALPHA crew is not located next to the AmateurRadio station.

Voice operations Region 2 & 3 (North and South America and Pacific)

Chan	Receive	Transmit	Offset (Meg)
1	145.802.5	144.488.5	-1.314
2	145.800.0	144.490.0	-1.310
3	145.798.5	144.492.5	-1.306

Packet operations Regions 1, 2 & 3 (Europe, North and South America and Pacific)

Chan	Receive	Transmit	Offset (Meg)
4	145.802.5	145.988.5	+0.186
5	145.800.0	145.990.0	+0.190
6	145.798.5	145.992.5	+0.194

Voice operations Region 1 (Europe)

Chan	Receive	Transmit	Offset (Meg)
7	145.802.5	145.198.5	-0.604
8	145.800.0	145.200.0	-0.600
9	145.798.5	145.202.5	-0.596

Usage Example:

Lets assume ISS ALPHA is approaching for a good 10 minute over head pass, running Packet. When ISS ALPHA comes over the horizon the Doppler frequency error will initially be 3.5k plus 145.990 = 145.993.5. This means the frequency ISS ALPHA will appear to be transmitting on is 145.993.5. Set your radio to channel #4 for the first 3 minutes of the pass. Then for the next 3 minutes use channel #5 and for the last three minutes use channel #6. Follow the same procedure for Voice operations. Since we are using the Mode FM, we do not have to have our Transmit and receive frequency exactly on frequency. We can be off frequency 1-2khz and still get reliable Voice and Data. The MAREX-NA team has been using this procedure for 10 years with excellent results.

Setting your Receive frequency:

Lets assume ISS ALPHA is approaching for a good 10 minute over head pass, running Packet. When ISS ALPHA comes over the horizon the Doppler frequency error will initially be 3.5k plus 145.800 = 145.802.5. This means the frequency ISS ALPHA will appear to be transmitting on is 145.802.5. Set your radio to channel #4 for the first 3 minutes of the pass. Then for the next 3 minutes use channel #5 and for the last three minutes use channel #6.

Setting your Transmit frequency:

You will also need to compensate for Doppler on you transmit frequency, however, you need to reverse you thinking. If the Space station is heading towards you

at 17,500 mph, you will now need to subtract from your transmitter the Doppler error to make your transmit signal show up close to the spot the space station receiver is expecting to hear your signal. (The ISS crew will not be compensating for Doppler frequency error, you must compensate).

Lets assume ISS ALPHA is approaching for a good 10 minute over head pass, running Packet. When ISS ALPHA comes over the horizon the Doppler frequency error will initially be 3.5k plus. This value must be subtracted from your transmit frequency ($3.3 - 145.990 = 145.988.5$). This means the frequency ISS ALPHA will appear to be listening on is 145.988.5. Set your radio to channel #4 for the first 3 minutes of the pass. Then for the next 3 minutes use channel #5 and for the last three minutes use channel #6. Follow the same procedure for

Voice operations:

Just use the channels assigned for your part of the world. (Thunder Bay is in Region 2....Ed.)

Since we are using the Mode FM, we do not have to have our Transmit and receive frequency exactly on frequency. We can be ooff frequency 1-2khz and stil get reliable Voice and Data. The MAREX-NA team has been using this procedure for 10 years with excellent results.

QSL card:

A QSL card is a post card, which you can request to confirm you made a two-way or heard the crew on the Amateur Radio band. The QSL procedure for ISS ALPHA is under development, please check the AIRSS web pages for the latest updates and QSL procedures for ISS ALPHA.

<http://ariss.gsfc.nasa.gov/>

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received from the MAREX-NA SSTV system on the Russian Space Station Mir are considered public domain and may be freely distributed, without prior permission.

DOSVIDANIYA Miles WF1F

Thisn' that.....

ARRL Repeater Directory.....Gerald VA3BRN phoned to say that Alberta is not listed, but this missing information can be obtained by email (Tks Gerry)

Nipigon Repeater....oops....repeater was down for a while because of technical problems with another unit on-site.....apparently the simplex machine got plugged into a dead outlet....all is well now (Tks Andy VE3INI)

LARC Inventory.....if you have a piece of LARC equipment on loan and have not already done so, please QSO Judy @ 345-2218 with the details so the inventory can be updated.

Camp 807.....newsletter from Rainy Lake ARC indicates they are hosting Camp 807 on August 3, 4 and 5 at the Holiday Village Travel Park in east Fort Frances..... more information on this very popular get-together as it becomes available.

Erratum (or errata?).....December LARC membership list incorrectly listed Marion Grove as VE3MJG....it should have been VE3MGJ. (hope I got it straight this time??? Ed.)

Jim VE3UA, the LARC unofficial historian, has undertaken an enormous task.....that of compiling the club's history back to 1934 and placing it onto a CD. This could become a very insightful item for all past, present and future members. Good Luck Jim!!!

Cycling for Children.....it's all about "families helping families of sick kids". Randy VA3GOT has forwarded information about this cross-Canada fund-

raising cycle tour this summer. The group will have a motor home support vehicle, and is seeking the following:

- contact person in LARC who will either bike (preferably) with the group in our area or be in the RV (for bike wannabe's....Ed)
- provide tour information and progress reports to media
- speak about value of ham radio on the tour to the general public
- provide urgent/emergency communications as required

We've lots of time to plancan we "host" the group (e.g., BBQ, pot luck supper)? Provide overnight camp areaNOW is the time to **THINK** about what we can do. QSO Randy with ideas!!!

More information can be obtained from:

www.cyclingforchildren.com

Down Memory Lane

April 1967.....Bill **VE3ARN** chaired the meeting at the EMO building (home of **VE3ZCD** corner Waterloo and Victoria.....Ed.) Frank **VE3AJ** was looking after the LARC Annual Dinner with Bamboo Gardens, Blue Parrot and New York Lunch being possible sites. Bill was also working with Eaton's who were looking for old communications equipment to help them celebrate their centennial. Kim **VE3EFW** organizing transmitter hunt for May 7. Bill **VE3EEW** Field Day organizer and to report on **AJ's** farm, Kakabeka and **VE3EDZ's** camp as possible sites. The Club's new transceiver was on display along with home-brew keyer built by Bob **VE3EEM**.

73 de ve3avs

Transatlantic QSO on LF completed.....

On Feb, 19th **G3AQC** and **VA3LK** completed a QSO between the UK and Eastern Ontario on 136 kHz.

It began on Feb. 5th and was completed on Feb. 19th. The QSO was made using a visual adaption of Morse, and using the visual receiving program ARGO. The dits were 90 seconds long and the dashes

180. Both stations used homebrew transmitters and a mix of commercial and homebrew receiving equipment. At these frequencies a wavelength is about 2200 metres long. The effective radiated power at **G3AQC** was in the order of 350 milliwatts! More information on amateur radio LF communications can be obtained from the RAC website. (Tks RAC mailer....Ed.)

RAC On-air events.....

March 24-25 CQ WW WPX SSB Contest

March 24-25 SLP Competition (SWL)

April 7-8 SLP Competition (SWL)

April 7-8 SP DX Contest

April 7-8 EA RTTY Contest

April 8 UBA Spring Contest

More from RAC.....

March 20-April 19 John Hutchison **VE3CKF** will be using special events call sign **VC3X** to celebrate the 125th Anniversary of the City of St. Catharines.

From the Arrowhead ARC Newsletter.....

T The state of South Dakota is in the process of passing legislation which will effectively ban **ALL** mobile radio equipment from use in a vehicle while the vehicle is being operated. It would seem the thrust is toward cell phones but will encompass **amateur radio equipment** as well! And who says it can't happen in Ontario????

A similar bill was killed in the state of Maine, due partially to aggressive lobbying by amateurs. California, Florida and Massachusetts impose some types of restrictions on mobile equipment. Nearly **40** U.S. states have considered legislation since 1995. Five known cities require drivers to use hands-free technology.

(Stay alertwe must be proactive in maintaining our privilege to operate our mobile radios, primarily as a public service.....Ed.)

24th Annual Sibley Ski Tour

Saturday, March 3rd saw 940 participants take part in the 24th Annual Sibley Ski Tour at Sleeping Giant Provincial Park with 240 registered for the 50 km tour.

As usual, the LARC provided communications covering all the check points, highway crossings as well as the prefinish and finish line. **VE3ICY**, **VA3NST**, **VE3RVA**, **VA3MVR**, **VE3CLV**, **VE3FLB**, **VE3FAL**, Teresa Rahmer (student), **VE3INI**, **VA3SCM** and **VA3TBA** manned the check points and highway crossings. **VE3XLB** and **VA3EAP** worked the prefinish area providing bib numbers to **VA3MOB** at the finish line. **VE3SNW** and **VE3XRC** looked after net control.

The event started at 10:15 am and the last skier crossed the finish line at 4:00 pm. This year set a record for participants in the ski tour with almost perfect conditions, both weather and snow. (Tks **VE3XRC**...Ed.)

Web Sites of Interest.....

Many thanks to Wayne, **VA3WRL**, who must spend even more time on the keyboard than he does on skis, for sending me the following:

www.electronics-tutorials.com/transmitters/30m-qrp-transmitter.htmschematic diagram, parts list and full details on how to homebrew a 3M qrp rig.

<www.dxzone.com/catalog/Software/Morse_Code_Training/>.... Lotsof links to web sites providing a variety of on-line code training programs

<http://hem-passagen.se/sv0vpo/right.htm>links to

other web sites with projects and information for hams

<http://users.skynet.be/on1cau/>a veritable gold mine of satellite data, ranging

from history, through how to get started and technical data, etc. etc.

www.obarr.net/mara/Satellite/current satellite tracking data with links to other satellite web sites

<www.electronics.tutorials.com/index.htm>...this site is self-explanatory

www.eriinc.com/IEEE/tower products available

<<http://heathkits.com/doc.htm/>>....supplied radios to the movie "Frequency".....

(P.S. most of us are aware that even the tiniest error in a URL can keep you out of that web site....so if you try any of the above and can't get in, it may be because an error was typed in....QSO Wayne for corrections. Ed.)

Electronic QSLing???

From the CCRAA Recent newsletters comes information about eQSLing. Check out these QSL Web Sites:

www.eqslcard.comthanks to Greg K00AF

www.vqslnet.netthanks to Paul N8ILY

Silent Key.....Martin De Hoop **VE3KRM** passed away on March 24. Although not a member of the LARC, Martin was active in the hobby. His tower and beam were clearly visible as you began to enter the village of Murillo. (Tks Norm **VE3XRC** for info)

**Minutes of a Meeting of the Lakehead Amateur Radio Club
Held in Room 191, Confederation College, Thunder Bay, Ontario
March 8, 2001**

The meeting was called to order at 7:37 p.m. by the President VE3RVA, Bob Hansen with 26 members and guests in attendance. The meeting started with a roundtable of members and guests introducing themselves, a special welcome being offered to 3 of our students; Stephan Burns, Mark Conliffe and Bernard Wilmers.

Minutes of the Meeting held on February 10, 2001;

The minutes of the meeting held on February 10, 2001 were published in detail in the February issue of AHi-Q@ and distributed to all members.

Motion: moved by VE3AJ, Bill Klemacki and seconded by VA3JRS, Jan Sokoloski that the minutes be accepted as distributed. **Carried.**

Correspondence:

- letter from the CNIB asking for donation to the CNIB Amateur Radio Program
- It was decided to postpone donation until further notice.

Treasurer's Report: VA3JRS, Jan Sokoloski

Balance as of January 31, 2001			\$ 3,095.32
Income:	Membership Dues	<u>35.00</u>	35.00
Expenses:	Administration	2.91	
	CLASS	75.00	
	Hi-Q	25.67	
	Telephone	<u>40.37</u>	143.95
Balance as of February 28, 2001			\$ 2,986.37

Motion: moved by VA3JRS, Jan Sokoloski and seconded by VE3DWP, Dan Darling that the Treasurer's Report be accepted. **Carried.**

Committee Reports:

Equipment: VE3INI, Andy Malcolm reported the Nipigon Repeater work is on-going.

Ares: VA3GOT, Randy Gottfred has a few more Ares ID cards to hand out and also there are a few more pictures of members to be taken. The phone tree is still in the works due to the many changes. Randy received a note from ABicyclists Across Canada@looking for operators to help make radio contacts along the road when bicyclists are in the local area. He will be let us know when and where volunteers are needed.

Public Service: VE3XRC, Norm Bell reported on the Sibley Ski Tour of which 940 skiers took part. Diane Ambrose thanked the club for a job well done by the radio operators on duty and donated a cheque for \$150.00 to the Lakehead Amateur Radio Club.

The next event for the club will be the 10-Mile Road Race...details to follow.

VE3ZG, Mike Nawrocki will be looking for volunteers for the Heart Of Canada Marathon to be held Sunday, September 2, 2001.

Field Day will be held at VA3MVR, Mark Vacillant's house, Oliver Road, June 23rd and 24th . Details to follow.

Old Business: - reminder to all club members to pass on whereabouts of club equipment to VA3EAP, Judy Artist by phone or email, so inventory list can be up-dated.

New Business: It was suggested by VE3RVA, Bob Hansen that we rent a table at Vanderwees Craft Fair, October 13th and 14th. This would be a good time to demonstrate radio equipment and advertise Amateur Radio to the public.

Gift Certificate: A dinner for two (value of \$50.00) will be raffled off at the next meeting in place of the 50/50 draw.

Annual Dinner: VE3RVA, Bob Hansen suggested we book the Slovak Legion again for next year's annual dinner meeting. He asked for a show of hands?.....approved.

50/50 Draw: Winner of 50/50 draw was VE3AJ, Bill Klemacki.

Adjournment: moved by VE3ZG, Mike Nawrocki that the meeting be adjourned.

Show and Tell:

VE3RVA, Bob Hansen, invited members to present their favourite ~~A~~boat anchors@ for ~~A~~show-and-tell@ to the club. Some very interesting antique equipment was presented, a few in working order, demonstrating a ~~A~~bit of history@ for amateur radio. Thanks go out to VE3RVA, Bob Hansen, VE3AJ, Bill Klemacki, VA3GOT, Randy Gottfred and VA3TFS, Terry Saunders.

NOTICE OF LARC MONTHLY MEETING

THURSDAY APRIL 12TH AT 1930 HOURS

ROOM 191 CONFEDERATION COLLEGE



Check Point Five of the Sibley Ski Tour, March

From Right to Left: Andy (VE3INI) and son Simon, (VA3SCM), who are just standing around waiting for Eric (VE3EBL) to prepare lunch!!!